

METHOD AND APPARATUS FOR INK JET PRINTING ON RIGID PANELS

Abstract of the Disclosure:

Ink jet printing is provided onto rigid panels such as foamboard and contoured material using ultraviolet (UV) light curable ink, which is first at least partially cured with UV light and then may be subjected to heating. Printhead-to-panel spacing is controllable to maintain a predetermined constant distance from the printing element to the surface of the panel where the ink is to be applied. Each of a plurality of printheads may be independently moveable to control the spacing of the printheads from the substrate surface. Sensors on the printhead carriage measure the shape, or vertical position of, the printhead's distance from the printhead carriage to the surface of the substrate being printed. The position or focal length of the UV light curing head may be varied to maintain focus of the UV light on the ink on a contoured surface of the substrate. UV curing heads may be located on the printhead carriage, one on each side of the printheads, and activated alternately as the carriage reciprocates, to spot cure and freeze the dots of ink immediately after being deposited on the substrate. Cold UV sources may be used to prevent heat deformation of flat or contoured substrates during printing, thereby making spot curing on heat-sensitive substrates such as foamboard possible.